

In the Claims

This listing of the claims will replace all prior versions, and listings, of claims in the application.

1.-22. (Cancelled)

23. (Original) A composition, comprising:

heparinase III or a therapeutic HLGAG fragment in an effective amount for preventing metastasis of a tumor cell and a targeting molecule for targeting the heparinase III to the tumor, in a pharmaceutically acceptable carrier.

24.-26. (Cancelled)

27. (Original) A composition, comprising:

heparinase III or a therapeutic HLGAG fragment in an effective amount for preventing metastasis of a tumor cell and an anti-cancer compound in a pharmaceutically acceptable carrier.

28. (Currently Amended) A substantially pure heparinase III, comprising:

B6 a polypeptide having the amino acid sequence of the mature peptide of SEQ ID NO: 2 ~~or having conservative substitutions thereof within residues non-essential to enzymatic function,~~ wherein at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

29.-31. (Cancelled)

32. (Currently Amended) A substantially pure heparinase III comprising:

a modified heparinase III having a modified product profile, wherein the modified product profile of the modified heparinase III is at least 10% different than a native product profile of a native heparinase III,

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wherein the substantially pure heparinase III has the amino acid sequence of the mature peptide of SEQ ID NO: 2 where at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

33. (Currently Amended) A substantially pure heparinase III comprising:

a modified heparinase III that can cleave a heparan sulfate substrate having a modified heparinase III k_{cat} value, wherein the modified heparinase III k_{cat} value is at least 10% different than a native heparinase III k_{cat} value,

wherein the substantially pure heparinase III has the amino acid sequence of the mature peptide of SEQ ID NO: 2 where at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

34. (Previously Amended) A pharmaceutical preparation comprising a sterile formulation of the substantially pure heparinase III of claim 28 and a pharmaceutically acceptable carrier.

35. (Previously Amended) An immobilized substantially pure modified heparinase III comprising:

a modified heparinase III as in claim 28, and

a solid support, wherein the modified heparinase III is immobilized on the solid support.

36.-60. (Cancelled)

61. (New) The substantially pure heparinase III of claim 28, further comprising a conservative substitution within residues non-essential to enzymatic function.

62. (New) The substantially pure heparinase III of claim 32, further comprising a conservative substitution within residues non-essential to enzymatic function.

63. (New) The substantially pure heparinase III of claim 33, further comprising a conservative substitution within residues non-essential to enzymatic function.

64. (Reinstated – formerly claim # 24) The composition of claim 23, wherein the heparinase III is a modified heparinase III.

65. (Reinstated – formerly claim # 25). The composition of claim 23, wherein the heparinase III is a native heparinase III.

66. (Reinstated – formerly claim # 26) The composition of claim 23, wherein the targeting molecule is a compound which binds specifically to an antigen on the surface of a tumor cell.

B6 67. (Reinstated – formerly claim # 29) The substantially pure heparinase III of claim 28, wherein the polypeptide has at least one substitution within a histidine residue selected from the group consisting of His110 and His241.

68. (Reinstated – formerly claim # 30) The substantially pure heparinase III of claim 28, wherein the polypeptide has a substitution at His110.

69. (Reinstated – formerly claim # 31) The substantially pure heparinase III of claim 29, wherein the polypeptide has a substitution at His241.
